

Remarks

Claim Rejections – 35 USC § 101

Claims 19, 20 and 22 stand rejected under 35 USC 101 as being directed to non-statutory subject matter. Claims 20 and 22 are pending. Claim 19 has previously been cancelled. This rejection is traversed in view of the amendments made to claims 20.

Amended claim 20 is submitted to be directed to statutory subject matter under the machine or transformation test, and in accordance with the recent guidelines published by the Patent and Trademark Office during the interim while the *Bilski* case is being considered by the U.S. Supreme Court. It is therefore submitted that claim 20 meets the requirements of 35 U.S.C. § 101.

Claim 22 is directed to a network including a computer system as claimed in claim 20.

It is submitted that the subject matter of both claims now meets the statutory requirements.

Claim Rejections – 35 USC § 103

Pending claims 1-9, 18, 20 and 22 stand rejected under 35 USC 103(a), as being unpatentable over Sciacca (US 6,760,761) in view of Thompson et al. (US 6,189,038). This rejection is traversed in light of the following remarks.

Sciacca discloses a system and method for standardizing an interface, to configure and manage different types of network resources (col.1, lines 7-9). This addresses the problem of how to configure network devices which each have a different command set (col.1, lines 26-28). The solution is to provide a device manager, which acts as a centralized intermediary between managed devices and the remote devices which wish to configure them (see Fig. 1). The device manager presents a standardized interface, which allows the remote devices to easily configure arbitrary managed devices (col.11, lines 10-12). To achieve this, a device configuration database

stores configuration information in a device-independent form (col.3, lines 35-37). Meanwhile, a policies database stores rules which allow a device configuration to be built for a specific type of device (col.4, lines 5-7). The policies for each type of device are constructed by developers or engineers (col.4, lines 18-20). In this way, the device-specific implementation details are hidden from the remote devices, which instead interact only with the device configuration database.

In the terms of pending claim 1, therefore, it might be said that a first entity (a managed device) and a second entity (the remote device trying to configure it) are seeking to communicate across a network.

The Examiner asserts that the devices have structured meta-data associated with them, citing col.5, lines 3-15. The Applicant doubts that the “configuration data” referred to in this passage comprises “at least one semantic information element describing a characteristic of an interface capability”. However, neglecting this point, it is clear that data is only stored in respect of the managed devices. No meta-data whatsoever is stored in respect of the remote (managing) devices. Therefore, Sciacca does not disclose “structured meta-data... describing... each of a first entity and at least one other entity, said entities seeking to communicate across a network”, because Sciacca discloses meta-data relating to at most one of the two entities which wish to communicate. Claim 1 calls for generating, collating and analyzing this meta-data and Sciacca can disclose none of these steps. Moreover, Sciacca does not disclose “generating... an... interface”, let alone an interface that is adaptive.

This is because the approach of Sciacca is fundamentally different from that of the present invention. To solve the problem of diverse interfaces, Sciacca proposes an intermediary having a standardized interface – that is, a single, generic, fixed interface, which can be mapped (by the intermediary) to specific, fixed managed-device interfaces. On the contrary, the invention of claim 1 generates an adaptive software interface which allows two entities to negotiate and establish communication between themselves. That is, the interface dynamically adapts to the capabilities of both entities.

The system of Sciacca requires an intermediary (the device manager) which is pre-programmed to know the specific command sets of all of the devices to be managed. Sciacca also requires each of the managing, remote devices to be pre-programmed with the standardized interface of the device manager. Because the interface is fixed (standardized) there is no scope for adaptation: if a remote device is not programmed to use the standardized interface (or programmed with a different version of the standardized interface), then it will be unable to interact with the device manager and therefore unable to configure the managed devices.

The invention of claim 1 goes much further in enabling interoperability. It achieves this by generating, collating and analyzing semantic information elements corresponding to both entities, and then generating an adaptive interface by which they can communicate. This avoids the disadvantages of Sciacca – the need for an intermediary; and the need to provide remote devices with a fixed, standardized interface.

In this regard, Thompson serves only to confirm the teaching of Sciacca. Thompson proposes “protocol-specific translators” in communication with the network [devices]. These translate from the device-specific form into a canonical or generic form and consumer components then communicate with the generic notifications framework (col.3, lines 5-23). Thus, Thompson is teaching a similar approach of standardizing a single, central protocol for use by consumer devices/applications, and mediating (translating) between this standardized protocol and each of the protocol-specific forms. That is, Thompson has the same deficiencies as Sciacca.

In many ways, the standardized interfacing approach of Sciacca and Thompson is the opposite of the adaptive software interface of the invention. It would not have been obvious for one of ordinary skill in the art to depart from the concept of standardization, as taught by Sciacca and Thompson – much less to move to the radically different concept of adaptation.

For these reasons, the Applicant respectfully submits that claim 1 is patentable over the cited references.

Claim 20 recites similar technical features to claim 1. It is essentially directed to a computer system programmed to operate in accordance with the method of claim 1. The Applicant submits that it is therefore patentable for the same reasons.

Claim 8 is directed to a method of determining a behavioral characteristic of a first entity in a relationship with at least one other entity. This requires the steps of “generating meta-data providing a structure containing at least one semantic information element describing a characteristic of an interface capability” for both the first entity and the at least one other entity. As discussed above, Sciacca discloses generating meta-data for at most one of two entities that wish to communicate.

Since the step of generating meta-data for a second entity is not disclosed, Sciacca cannot disclose the remaining steps of claim 8 – namely, collating the semantic information elements of one entity with the other; and analyzing the collated pairs to determine a behavioral characteristic.

As discussed above for claim 1, the approach of Sciacca is to provide a central intermediary with a single, standardized interface. This teaches away from the solution of generating, collating and analyzing metadata as claimed in claim 8. Sciacca has no need to determine behavioral characteristics, because these characteristics are fixed on both sides of the intermediary – on the one side by the single, standardized interface; and on the other side by the multiple device-specific command sets. Thompson confirms this approach.

Claim 8 is therefore non-obvious in light of these references, for similar reasons to claim 1.

Likewise, claim 18 requires “generating at least one meta-data structure providing at least one semantic information element for each entity” (an initiator and a responder), followed by collating corresponding semantic information elements and analyzing them to determine the extent to which the initiator and the responder can generate a compatible interface. In accordance with this analysis, an interface is generated between said initiator and said responder which

enables them to communicate across the network despite the fact that the interface capabilities of the entities are different.

As discussed above for claim 1, Sciacca discloses none of these steps. On the contrary, it teaches an approach that is fundamentally different – standardizing a fixed interface and providing an intermediary to map from the standard form to the device-specific form. Thompson takes the same approach.

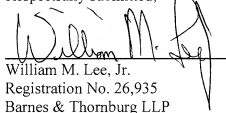
Claim 18 is therefore submitted to be non-obvious in view of Sciacca and Thompson for similar reasons expressed with respect to claim 1.

The remaining dependent claims are submitted to be allowable at least by virtue of their dependence from an allowable independent claim.

In view of the fact that all of the Examiner's comments have been addressed, further and favorable reconsideration is respectfully requested.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line.

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